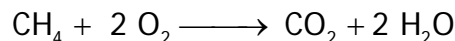


Chemistry I: Practice Stoichiometry Test A

Show all WORK.

1. How many grams of water are produced when methane (CH₄) burns to produce 550 liters of CO₂?



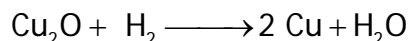
$$550\text{L CO}_2 \times \frac{1\text{mol CO}_2}{22.4\text{L CO}_2} \times \frac{2\text{mol H}_2\text{O}}{1\text{mol CO}_2} \times \frac{18\text{g H}_2\text{O}}{1\text{mol H}_2\text{O}} = 883\text{ g H}_2\text{O}$$

2. If 5 grams of sodium hydrogen carbonate (baking soda) are decomposed when making chocolate chip cookies; how many liters of carbon dioxide are released?



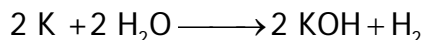
$$5\text{g NaHCO}_3 \times \frac{1\text{mol NaHCO}_3}{84\text{g NaHCO}_3} \times \frac{2\text{mol CO}_2}{2\text{mol NaHCO}_3} \times \frac{22.4\text{L CO}_2}{1\text{mol CO}_2} = 1.33\text{L CO}_2$$

3. Calculate the number of grams of copper that would be produced by the reduction of 250 grams of copper (I) oxide by hydrogen.



$$250\text{g Cu}_2\text{O} \times \frac{1\text{mol Cu}_2\text{O}}{143\text{g Cu}_2\text{O}} \times \frac{2\text{mol Cu}}{1\text{mol Cu}_2\text{O}} \times \frac{63.5\text{g Cu}}{1\text{mol Cu}} = 222\text{g Cu}$$

4. What weight potassium is needed to produce 500 liters of hydrogen?



$$500\text{L H}_2 \times \frac{1\text{mol H}_2}{22.4\text{L H}_2} \times \frac{2\text{mol K}}{1\text{mol H}_2} \times \frac{39\text{g K}}{1\text{mol K}} = 1741\text{g K}$$